without a considerable loss in its heating power due to the dissociation of the hydrocarbons. Furnaces fired with these gases, as well as those fired with oils or tars, are designed to preheat the air supply only, but it is usually desirable to design the regenerators for these furnaces in such a manner that producer gas may be substituted without extensive and costly alterations.

VOLUME OF CHECKER BRICK

There seems to be a considerable diversity of opinion regarding the amount of checker brick which should be used. Table 6 gives the data covering the volume of the checker brick in a number of furnaces. These data have been plotted in Fig. 152

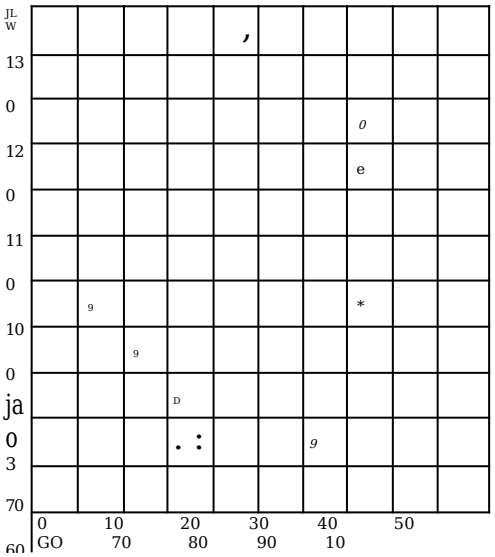

FIG. 152.—Graphical Comparison of the Volume of Air Plus Gas Checker Brickwork in Cubic Feet per Ton of Nominal Capacity for Furnaces of Various Capacities.

which compares the total amount of the air and gas checkerwork per ton of nominal capacity. Table 7 gives the maximum and the minimum volumes of checkerwork.

In all data of this kind there are two uncertain factors. The nominal and the actual capacity of an open-hearth furnace are different. It happens quite frequently that the actual capacity